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TOMLIN RESIDENCE

19 LA RANCHERIA
CARMEL VALLEY, CA. 93924

CF-6R-MECH-05	
INSTALLATION	
CERTIFICATE	
DATE:	01/13/2014
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HEET	OF
SHEET	15

Residential Compliance Forms

August 2009

INSTALLATION CERTIFICATE		CF-6R-MECH-05
Air Quality and Mechanical Ventilation		
Address:	Enforcement Agency:	Permit Number:

OTHER REQUIREMENTS

is listed below (6.1 through 6.8) correspond to the information given in ASHRAE 62.2 Section 6 "Other Requirements". Refer Chapter 4.6 of the Residential Compliance Manual (Section 4.6.5) for information describing these "Other Requirements". The Responsible Person in the declaration statement below certifies that the building complies with these requirements as listed in ASHRAE 62.2 Section 6.1 through 6.8 if applicable.

Transfer Air

Instructions and Labeling

Cloths Dryers

Combustion and solid-fuel burning appliances

Garages

Ventilation Opening Area

Minimum filtration

Air Inlets

Prescriptive Designs: For ventilation systems that utilize *prescriptive design criteria*, the signature of the Responsible Person in the declaration statement below certifies that the installed system conforms to the prescriptive ventilation system design criteria from Table 7.1 of Standard 62.2 and manufacturer's installation specifications.

Engineered Designs: For ventilation systems that utilize *engineered design criteria*, the signature of the Responsible Person in the declaration statement below certifies that the installed system conforms to the engineered ventilation system design documentation approved by the enforcement agency.

Manufacturer's Design Criteria: For ventilation systems that utilize *manufacturer's design criteria*, the signature of the Responsible Person in the declaration statement below certifies that the installed system conforms to the manufacturer's published duct system design criteria and installation specifications.

DECLARATION STATEMENT

I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct, and eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).

I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.

I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met. **I will ensure that a completed, signed copy of this Installation Certificate shall be posted, or made available with the building unit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a signed copy of this Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.**

My Name: (Installing Subcontractor or General Contractor or Builder/Owner)

Responsible Person's Name: _____ Responsible Person's Signature: _____

License: _____ Date Signed: _____ Position With Company (Title): _____

Residential Compliance Forms

August 2009

AIR QUALITY CERTIFICATE			CF-6R-MECH-05 (Page 1 of 5)																				
Address:		Enforcement Agency:		Permit Number:																			
<p><i>for Indoor Air Quality (IAQ): All dwelling units shall meet the requirements of ANSI/ASHRAE standard 62.2. 24 Part 6 Section 150(o). Equation and table numbering on this CF-6R corresponds to the numbering for that on in the published ASHRAE Standard 62.2.</i></p>																							
BUILDING VENTILATION																							
<p>On-Rate: A mechanical supply system, exhaust system, or combination thereof shall provide whole-building ventilation with outdoor air each hour at no less than the rate in equation 4.1a. For dwelling occupant densities known to be greater than $(N_{br} + 1)$, the rate shall be increased by 7.5 cfm for each additional person.</p>																							
$Q_{fan} = 0.01A_{floor} - 7.5(N_{br} + 1)$			<p>Where: A_{floor} = conditioned floor area, ft² N_{br} = number of bedrooms; not to be less than one Q_{fan} = ventilation air requirement – fan flow rate, (cfm)</p>																				
			<p>Enter Eq. 4.1a Calculation: A_{floor} = 4876 N_{br} = 4 Q_{fan} = 86</p>																				
<p>D Ventilation: The effective ventilation rate of an intermittent system is the combination of its delivered ventilation fractional on-time, cycle time, and the ventilation effectiveness from Table 4.2. This calculation only applies to intermittent systems.</p>																							
$Q_f = Q_r / (sf)$			<p>Where: Q_r = ventilation air requirement from Eq. 4.1a (above) f = daily fractional on-time, (%) ϵ = ventilation effectiveness (from Table 4.2) Q_f = fan flow rate during the on-cycle (cfm)</p>																				
			<p>Enter Eq. 4.2 Calculation (if applicable). Q_r = _____ f = _____ ϵ = _____ Q_f = _____</p>																				
<p>- Ventilation Effectiveness for Intermittent Fans</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 5px;">Fractional On-Time, f</th> <th style="text-align: left; padding: 5px;">Ventilation effectiveness, ϵ</th> </tr> <tr> <td style="text-align: left; padding: 5px;">$f \leq 35\%$</td> <td style="text-align: left; padding: 5px;">0.33</td> </tr> <tr> <td style="text-align: left; padding: 5px;">$35\% < f < 60\%$</td> <td style="text-align: left; padding: 5px;">0.50</td> </tr> <tr> <td style="text-align: left; padding: 5px;">$60\% < f < 80\%$</td> <td style="text-align: left; padding: 5px;">0.75</td> </tr> <tr> <td style="text-align: left; padding: 5px;">$80\% \leq f$</td> <td style="text-align: left; padding: 5px;">1.0</td> </tr> <tr> <td style="text-align: left; padding: 5px;">at least once every three hours</td> <td style="text-align: left; padding: 5px;">1.0</td> </tr> </table>			Fractional On-Time, f	Ventilation effectiveness, ϵ	$f \leq 35\%$	0.33	$35\% < f < 60\%$	0.50	$60\% < f < 80\%$	0.75	$80\% \leq f$	1.0	at least once every three hours	1.0	<p>Whole-Building Ventilation Rate Summary Select the method used to provide Whole-Building Ventilation and enter the required fan flow rate (cfm). Select one:</p> <p><input checked="" type="checkbox"/> Continuous fan flow (cfm) = 86 _____</p> <p><input type="checkbox"/> Intermittent fan flow (cfm) = _____</p> <p>Use the fan flow rate from this summary for selection of the whole-building ventilation fan and for the duct design for the whole-building ventilation system. Provide the system design information in applicable sections below.</p>								
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at least once every three hours	1.0																						
VENTILATION EXHAUST																							
<p>Mechanical exhaust fans shall be installed in each kitchen and bathroom. The minimum airflow rates shall be at least as indicated in tables 5.1 and 5.2.</p>																							
<p>Continuous Local Ventilation Exhaust Airflow Rates</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Location</th> <th style="text-align: left; padding: 5px;">Airflow</th> <th style="text-align: left; padding: 5px;">Notes</th> <th style="text-align: left; padding: 5px;">Application</th> <th style="text-align: left; padding: 5px;">Airflow</th> <th style="text-align: left; padding: 5px;">Notes</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; padding: 5px;">Kitchen</td> <td style="text-align: left; padding: 5px;">100 cfm</td> <td style="text-align: left; padding: 5px;">Vented range hood required if exhaust fan flow is less than 5 ACH</td> <td style="text-align: left; padding: 5px;">Kitchen</td> <td style="text-align: left; padding: 5px;">5 ACH</td> <td style="text-align: left; padding: 5px;">Based on Kitchen Volume</td> </tr> <tr> <td style="text-align: left; padding: 5px;">Bathroom</td> <td style="text-align: left; padding: 5px;">50 cfm</td> <td style="text-align: left; padding: 5px;"></td> <td style="text-align: left; padding: 5px;">Bathroom</td> <td style="text-align: left; padding: 5px;">20 cfm</td> <td style="text-align: left; padding: 5px;"></td> </tr> </tbody> </table>			Location	Airflow	Notes	Application	Airflow	Notes	Kitchen	100 cfm	Vented range hood required if exhaust fan flow is less than 5 ACH	Kitchen	5 ACH	Based on Kitchen Volume	Bathroom	50 cfm		Bathroom	20 cfm		<p>Table 5.2 Continuous Local Ventilation Exhaust Airflow Rates</p>		
Location	Airflow	Notes	Application	Airflow	Notes																		
Kitchen	100 cfm	Vented range hood required if exhaust fan flow is less than 5 ACH	Kitchen	5 ACH	Based on Kitchen Volume																		
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LATION CERTIFICATE		CF-6R-MECH-05
Air Quality and Mechanical Ventilation		
ss:	Enforcement Agency:	Permit Number:
VENTILATION SYSTEM DESIGN – Fan selection and duct design criteria for compliance <i>Flow rates required refer to the delivered airflow of the system as installed and tested using a flow hood, flow grid, or other measuring device. Alternatively, the airflow rating at a pressure of 0.25 in. w.c. of a certified fan may be used to demonstrate compliance without testing of the airflow of the installed system, provided the system duct sizing meets the prescriptive requirements of the manufacturer's design criteria. Other methods may be used to provide the required ventilation rates when approved by a design professional, subject to confirmation of delivered ventilation airflow of the installed system. Central Fan Integrated ventilation systems shall demonstrate compliance by field testing of the delivered ventilation airflow of the installed system.</i>		
-BUILDING VENTILATION SYSTEM DESIGN - Identify the ventilation system design criteria		
Criteria from this column	Requirements for installer to demonstrate compliance with code	Airflow Test Required?
Prescriptive design (Table 7.1)	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the Table 7.1 prescriptive design criteria.	no
Central Fan Integrated (CFI)	Central forced air system fans used in Central Fan Integrated ventilation systems shall demonstrate, in air distribution mode, a watt draw less than 0.58 W/CFM per Standards §151(f)11. Submit a CF-6R-MECH-22-HERS form for each forced air unit used for a CFI system. HERS verification is required.	yes
Engineered Design	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the engineered ventilation system design approved by the enforcement agency.	yes
Manufacturer's design criteria	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the manufacturer's ventilation system duct design criteria.	no
VENTILATION SYSTEM DESIGN - Identify the ventilation system design criteria		
Criteria from this column	Requirements for installer to demonstrate compliance with code	Airflow Test Required?
Prescriptive design (Table 7.1)	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the Table 7.1 prescriptive design criteria.	no
Engineered Design	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the engineered ventilation system design approved by the enforcement agency.	yes
Manufacturer's design criteria	Enter the installed ventilation air-moving equipment information and the installed ventilation duct system information in the tables below, and certify on the CF-6R that the installed system conforms to the manufacturer's ventilation system duct design criteria.	no